DELAWARE GEOGRAPHIC DATA COMMITTEE

Facilitating the sharing and coordinated use of spatially referenced data in Delaware

Meeting Summary
Delaware Geographic Data Committee
9:00 a.m., May 15, 2002
Mallard Lodge
Smyrna, DE

Attendance List:
Dick Sacher – UD/RDMS
John Callahan – UD/RDMS
Tina Callahan – UD/RDMS
Tripthi Mathews – Public Health
Mary Harper – SHPO
Pete Gerardi – Facilities Management
Jeff Bergstrom – City of New Castle
Pat Susi -- New Castle County
George Yocher – DPH
Lyn Anderson – Dept. of Labor
Mike Mahaffie – State Planning Coord.
Sandy Schenck – DGS
Joe Marinucci – Census Bureau
Andy Kloepfer – Public Health
Tripp Fischer – DNREC
Chris Barnard – EarthData
Michael Ward – Kent County
Joseph Joachimowski – Davis, Bowen & Friedel
Rick Steffers – City of Wilmington
Seth Van Aiken – ESRI
Brad Ebaugh – Delaware Electric Cooperative

Welcome and Introductions

Mike Mahaffie began the meeting at 9:10 a.m. He asked each person present to introduce themselves to the group.

Information Updates

Delaware DataMIL
Mike Mahaffie reminded the group that the DataMIL is up and running at *http://datamil.udel.edu*. John Callahan explained that he is now tweaking the site to improve performance. Sandy Schenck encouraged everyone in the GIS Community to use the DataMIL and suggest changes and updates to the Framework data layers that are on the site. Mike Mahaffie noted that it has been difficult to get the word out about the site. Dick Sacher noted that he has been interviewed by the Wilmington News Journal and that he expects there to be a story probably over Memorial Day Weekend.

Sandy asked who would be interested in taking part in a workshop designed to show how to best use the DataMIL. The group was mostly in favor of the idea and it will be pursued. John Callahan asked if the group would be interested in a tool that would allow users to extract raster data from the site, along with the vector data that is now available. That idea was also met with enthusiasm and John said that raster extraction is a tool that he will work on over time.

NHD Project
Sandy Schenck gave an update on the effort to have the National Hydrography Dataset (NHD) completed in Delaware. So far, northern Delaware has been completed and the Chesapeake basin, including parts of Delaware, is being completed. The NHD will give us additional data for the digital hydro layer we already use as our framework layer. Sandy noted that the funding appears to be in place for Delaware's share of the work. There is some doubt now about the funding share from Maryland, but Sandy noted that it will be important to keep working on the preparations for the project in anticipation of potential funding in the future.

Elevation Data Updates
Sandy Schenck and Mike Mahaffie gave an update on the formation of a working group to pursue updates to the state's elevation dataset, including contour lines. The group includes DNREC, the USGS, and others and will work to find a way to collect an elevation dataset that is more dense than that currently available.

Delaware Coastal Programs (DCP), in DNREC, is close to completing a contract with EarthData to fly a higher resolution photo project along a strictly defined swath of coastline for the purpose of stream-digitizing 7- and 10-foot contours to support the Coastal Building Line regulatory program.

DCP also has grant funds to try to start a pilot project to fly a LiDAR mission in the Inland Bays watershed to gather data that can be used to update Delaware's Flood Hazard maps. There is interest at USGS, NRCS, and in several state agencies, to take that idea statewide. The Elevation Working group will continue to track these efforts and look for ways to make such data collection possible.

It was asked whether the DEM's to be created in conjunction with the 2002 Digital Orthophotography Project could be used to support more detailed elevation work. Chris Barnard explained that the DEM's to be created for the ortho project will be accurate only enough to support the production of orthophotography. Further, he said that while the elevation information could be "densified," that would still only provide about a 5-foot contour interval. That would not be sufficient for the needed flood hazard studies.

Statewide Geocoder
Mike Mahaffie passed on a message from Vince Rucinski, of DelDOT, who was unable to make the meeting. Vince wanted the group to know that he is still in the process of testing the planned Statewide Geocoder. At this point, given the number of problems that he has found, Vince said that he is not comfortable estimating project completion date.

Potential NASA Remote Sensing Workshop
Mike Mahaffie noted that he has been contacted by Jay Morgan, at the Towson University Center for GIS, to start planning for a free, one-day seminar on remote sensing and data from NASA sources. Mike noted that he will keep the group informed as plans move forward. It is likely that there will be a workshop on remote sensing sometime over the summer.

2002 Delaware GIS Conference

Mike Mahaffie noted that the conference had included approximately 130 attendees and 7 vendors. He apologized to those who were unable to attend, due to the space limitations of the Rehoboth Beach Country Club. He noted that, according to Alex Settles at the University of Delaware Institute for Public Administration (IPA), the Conference registrations grossed about $4,000 and that, after expenses, and

considering that several of the comped attendees were IPA staff, the conference "more or less" broke even.

Mike asked the group whether they would like to make the Delaware GIS Conference an annual conference. That idea met with unanimous support and it was agreed that the conference should be in the spring of 2003.

Mike then asked for volunteers to lead the planning group for the 2003 Conference. John Callahan has volunteered to lead that Group. Any members of the GIS Community who would like to help out in the planning of the Conference should contact John at *diodata@udel.edu*.

Delaware's New Orthophotography – Chris Barnard, EarthData International

Chris Barnard gave a presentation (attached) on the 2002 Digital orthophotography project and showed several of the test scans of imagery from Dover, a marshy area along the Delaware River, and near New Castle. The group spent several happy minutes exploring the new data and asking questions about the project. Of most interest was the timeline for delivery. A pilot project (the Dover area) will be available in the late fall. Orthophotography will begin to be available in January 2003 and will be complete in April of 2003. The Land Use/Land Cover data update will be complete in June of 2003.

GIS at the Delaware Electric Cooperative – Brad Ebaugh, Delaware Electric Cooperative

Brad Ebaugh gave a presentation (attached) on the process of bringing the Cooperative from an environment in which managers and field staff planned and carried out their work entirely with old paper maps and microfiche to a more modern approach.

Discussion: After Framework, What Next?

Mike Mahaffie led a discussion of data sets that the group would like to focus on in addition to the Delaware Spatial Data Framework data sets.

Representative and Senatorial Districts
A GIS data set of these boundaries will be published by the Office of the Delaware Commissioner of Elections. It was agreed that it will be important to let that Office publish the one official version, to avoid the sort of confusion caused by multiple versions that surfaced after the last redistricting.

Structures
Sandy Schenck noted that there are many of Delaware's major structures shown in the miscellaneous features portion of the USGS DLG and that that could easily become the basis for a Structures data set. Structures, especially those identified as "critical facilities," have a new importance in the wake of the September attacks. It will be necessary to determine which structures are worth including in such a data set and to

outline which agencies should be data stewards for different parts of the data set. The Department of Education, for example, should be steward for school locations, while the Division of Facilities Management likely should be steward for state offices and facilities. It was also noted that DEMA will have to take a leadership role in managing such a data set. Pat Susi added that the New Castle County property information, now being integrated with the County parcel data set, will include building footprint information.

TIGER and TIGER Modernization
There was a brief discussion of the idea of adding Census Geography to the Framework. At the February 13 DGDC/SMAC meeting, the Census Bureau had sent a representative who expressed interest in using Delaware's framework data to properly align the TIGER data. The Bureau had experimented with the DelDOT centerline file, but the group at that point agreed that it would make more sense to work with County Parcel data. Mike Mahaffie agreed to follow-up with the Bureau to see if there has been any progress.

State/County Boundaries
Sandy Schenck noted that he will be working to develop a state boundary data set that uses a line between state boundary markers to check on the Framework state boundary data. He asked whether the counties have a way to check the County boundaries. It was suggested that the line where the county cadastral data sets meet should be the county boundaries. It was suggested that that will be a topic of discussion at the meeting of the County Cadastral group. Pat Susi noted that when the new Orthophotography becomes available, he plans to align his parcel data more closely to it, and that should make the county cadastral data even more valuable.

GIS Community Teams/Groups
Mike Mahaffie noted that the GIS Community seems to have settled into an organization structure in which teams and groups gather around specific issues, as needed, and he asked for thoughts on team/group activity at present.

Tina Callahan noted that the summer will be a good time to work with teachers on integrating GIS in the classroom. Lyn Anderson agreed and noted that the Education and Training Group will explore opportunities.

Other Items

Seth Van Aiken noted that ESRI is now shipping ArcGIS 8.2 and that ArcIMS 4 is also on its way. Both products make available a new enhancement in metadata clearinghouse technology, the metadata server. ArcPad 6 is also due out soon and there will be a series of free seminars on GIS and Homeland Security.

Wrap Up

The meeting was adjourned at a few minutes before Noon.

DELAWARE
STATEWIDE DIGITAL
ORTHOPHOTOGRAPHY PROJECT

Program overview

- New GPS Ground Control.
- Leaf-off Aerial Photography in Color IR with Airborne GPS.
- Digital Elevation Model Suitable for Orthophoto Production
- Digital Orthophotography at a Scale of 1:2,400 With a 25 cm Pixel Resolution.
- 1997 Land Use/Land Cover Mapping to be Updated and Enhanced.

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Program History

- 1992 Digital orthophotography – Total of 172 tiles at 1:12,000 in color IR with a 1 meter pixel resolution.
  Wetlands interpreted and mapped.
  Land use/Land cover added.
- 1997 Digital orthophotography – Total of 172 tiles at 1:12,000 in black and white with a 1 meter pixel resolution.
  Wetlands and land use updated.

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Ground Control

- 50 New GPS points were established to support the new orthophotography.
- GPS control is tied to the Delaware HARN.
- All new points are monumented for later use.
- Control references the Delaware State Plane NAD83, NAVD88 in meters.
- Control is first order horizontal, fourth order vertical.

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Aerial Photography

- A total of 1,200 exposures in 20 flight lines.
- Acquired at 10,800’ above mean terrain.
- Acquired with airborne GPS – Airborne GPS used 2 base stations.
- Dates of photography –
  March 8,11,14,23
  April 4
- All photography captured using a single emulsion batch.

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Digital Elevation Modeling

- Analytical aerotriangulation adjustment for 1,070 stereo models.
- DEM will be suitable for digital orthophoto production only.

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Digital Orthophotography

- Produced at a scale of 1:2,400 (1”=200’) with a 25 cm pixel resolution.
- Guaranteed accuracy of 1.5 meters at 95% confidence.
- Each ortho requires 139 Mb of storage.
- Each ortho tile covers 1,700 X 1,700 meters.
- Total of 1,967 tiles – 272 Gb of storage.

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Land Use/Land Cover Update

- The 1997 land use/land cover mapping will be registered to the new orthophotography and will be updated at a resolution of ¼ acre for wetlands and 2 acres for uplands.

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And, of Course, Metadata

- EarthData will develop FGDC compliant metadata for the orthos and land use/land cover data.

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Schedule

- Pilot orthos – November 30, 2002
- Orthos deliveries start – January, 2003
- Ortho deliveries complete – April, 2003
- Land use mapping – June, 2003

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Thank You
Image Demonstration

Chris Barnard

EarthData International

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Delaware Electric Cooperative

"Owned By Those We Serve"

From Paper Maps

to a

Geographic Information System

Presentation to

Delaware Geographic Data Committee

And

State Mapping Advisory Committee

May 15, 2002

Brad Ebaugh, GIS and Planning

“Setting the Stage”

- **Rural Electric Cooperative**
  - **Small by IOU Standards**
    - **19 Sub Stations**
    - **60 K Customers**
    - **4000 Miles of Wires**
    - **70 K Poles**
- **Two Failed Attempts**

Situation

- **Paper & Mylar Maps**
- **Microfiche Cards in Vehicles**
- **Quality/Accuracy Suspect**
- **No Intelligence to Map**

Why Change??

- **Current Process Not Keeping Up**
  - **Missing Data**
  - **Expensive to Reproduce**
  - **Manual Process**
  - **No Management Decision Support**
- **Expensive Technology Now Affordable**

Benefits

- **Accurate Inventory**
- **Electronic Database**
- **Improved Operational Efficiencies**

Where Do You Start?

- **<u>Inventory</u> or ~~Convert~~**

- **Choose Mapping System**

Project Timeline

- **Develop Standards**
- **Collect Field Data**
- **Quality Control**

Field Collection

- **Logical Approach**
- **Realistic Timeline**
- **Technical Support**

Quality Control

- **Timely**
- **Automated**
- **Value Added**

Drawing the Map

- **Automated Process**
- **Import Outside Data**

Using the Information

- **Not Just a Map**
- **Inside / Outside**
  - **Improved Operations**
  - **Improved Reliability**
- **Better, Faster, Easier**

Using the Information

- **Electronic Map in the Trucks**

Using the Information

- **Outage Reporting System**
- **Reliability Reporting System**

Using the Information

- **System Modeling**
- **Engineering Support**

Using the Information

- **Redistricting**
- **Auditing**
- **Attachment Survey**
- **Outage Management & Interruption Reporting**

Next Step?

- **Mobile Data to Field**
  - **MISS Utility**
    - **Automate Process and Export to the Field**
  - **Workorders**
    - **User Friendly Interface**
    - **Direct to Field**
    - **Field Updates**
    - **Tie With CIS**

What Does It Do?

- **Gives Things a Place**
  - **Find and Respond Faster**
- **Accurate Answers**
  - **Consumers & Regulators & Our Partners & Ourselves**
- **Saves Time**
- **Foundation for Innovation and New Applications**

Questions?